masses, a rich and varied marine invertebrate fauna occurs, particularly along the Atlantic and Pacific coastal areas. The seashore fauna of Arctic Canada is impoverished, mainly owing to the abrasive action of shore ice in winter. Sublittorally, however (40 metres and deeper), a moderately varied, although somewhat numerically reduced assemblage of mainly circumpolar species exists.

The Atlantic Coast of Canada provides a wide range of summer temperature conditions but its fauna is essentially a cold-temperate or boreal one. The cold, southward flowing Labrador current, however, provides a favourable environment for numerous sub-arctic species, for example among the sea mosses (Phylum Bryozoa). Between the Gulf of St. Lawrence and Cape Cod to the south, these two faunal constituents co-exist but the sub-arctic fauna finds its southern boundary there. On the other hand, the summer-warm surface waters of the southern Gulf of St. Lawrence permit the existence of a third temperature group, the Virginian (temperate-zone) fauna, isolated from its main populations south of Cape Cod.

Canada's richest marine invertebrate fauna undoubtedly occurs along its Pacific Coast. In this region there is strong upwelling of nutrient-rich coastal bottom water supplemented by heavy seaward flow of fresh water from Pacific watersheds. The resulting bountiful food supply enables a remarkable variety of species to exist, frequently in great abundance. At comparable latitudes the number of Pacific species is more than threefold that of the Atlantic Coast. To the layman, perhaps the most striking manifestation of this abundance is the profusion of great green sea anemones (*Bunodactis xanthogrammica*) and common starfish (*Pisaster ochraceus*) along the rocky, surf-pounded shores of the Pacific Coast.

As on the Atlantic Coast, the invertebrate fauna of the Pacific Coast contains two main elements: a sub-arctic group, and a larger Pacific boreal assemblage. Some of the sub-arctic species (particularly among the sea mosses) reach their southern boundary at Vancouver Island but, due to uniformly low summer temperatures along much of the American Pacific Coast, certain of the sub-arctic and many of the boreal species from all of the major phyla occur southward to about Point Conception, California. Also, a small number of warm-water species, native to places south of Point Conception or elsewhere in the world, are isolated in the summer-warm surface waters of the Strait of Georgia in British Columbia.

Species of most marine invertebrate phyla are commonly found along Canada's rocky shores. On the Atlantic Coast are frequently found sponges (Porifera) such as the tufted sponge (*Grantia ciliata*), the eyed finger sponge (*Chalina oculata*), and the crumb-of-bread sponge (*Halichondria panicea*); among the coelenterates are the white sea jelly (*Aurelia aurita*), the great pink jellyfish (*Cyanea capillata* var. *arctica*) and the hydroids *Bougainvillea superciliaris* and *Hydractinia echinata*. The segmented marine worms include the scale worm (*Lepidonotus squamatus*) and the tube worm (*Amphitrite figulas*). The spiny-skinned animals (Echinodermata) include the common purple starfish (*Asterias vulgaris*), the blood star (*Henricia sanguinolenta*), the sun star (*Crossaster papposus*), the basket star (*Gorgonocephalus arcticus*), the daisy brittle star (*Ophiopholis aculeata*), the green sea urchin (*Strongylocentrotus drobachiensis*) and the large northern sea-cucumber (*Cucumaria frondosa*). Among a dozen or so conspicuous sea mosses may be mentioned *Lichenopora verrucaria, Alcyonidium polyoum, Bugula turrita, Electra pilosa,* and the horned sea wrack *Flustra foliacea.*

An abbreviated listing would scarcely do justice to the immensely diverse Pacific marine fauna. Some species are common to the two coasts, but the dominant Pacific species are endemic. The large erect sponge (*Neosperiopsis rigida*), the encrusting sponge (*Haliclona rufescens*) and the cake-frosting sponge (*Xestospongia vanilla*) are frequent at low water levels. The large white sea anemone (*Metridium senile*) is common on wharf pilings and the solitary anemone (*Bunodactis elegantissima*) and the great green sea anemone (*B. xanthogrammica*) coat the lower intertidal rocks. Slender hydroids include *Eudendrium californicum, Garveia annulata, Hydractinia milleri,* and *Sertularia turgida.* Con-